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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/500,899 | 07/07/2004 | Shigeto Noya | 43888-324 | 8864 |

7590 12/03/2008

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| EXAMINER | |
|---|---|
| LEE, CYNTHIA K | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1795 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 12/03/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/500,899 | NOYA ET AL. | |
| | Examiner | Art Unit | |
| | CYNTHIA LEE | 1795 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *08 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,3,5 and 6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5 and 6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/8/2008 has been entered.

### *Response to Amendment*

This Office Action is responsive to the amendment filed on 9/8/2008. Claims 1-3, 5, and 6 are pending. Applicant's arguments have been fully considered and are not persuasive. Claims 1-3, 5, and 6 are non-finally rejected for reasons of record.

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### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeto et al. (JP Publication Number 2001-15106), as evidenced by Motoaki et al. (JP Publication Number 07-183032), in view of Takahashi (US 6630065).

Shigeto et al. disclose an alkaline cell that contains manganese dioxide and oxy-nickel hydroxide as the positive active material and zinc as the negative active material (paragraph 4). Shigeto et al. disclose a first example that uses an electrolytic solution that is 40wt% potassium hydroxide. Shigeto et al. disclose that it is desirable for the positive electrode to have 20-90% of the weight be manganese dioxide and 10-80% of the weight be oxy-nickel hydroxide. (paragraph 4).

Claim 3 has been considered but was not given patentable weight because the courts have held that the method of forming the product is not germane to the issue of patentability of the product itself. "[Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from the product of prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113. Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983)

It is noted that the potential of said manganese dioxide relative to a mercury/mercury oxide in a potassium hydroxide aqueous solution having a KOH concentration of 40 wt% is 270 mV, as evidenced by Motoaki [0014].

Shigeto discloses that the potential of manganese dioxide is 270 mV, as evidenced by Motoaki, but does not disclose that it is 272 mV or higher (Applicant's claim 1), or 281 mV or higher (Applicant's claim 6). Takahashi teaches an electrolyte containing manganese dioxide. Takahashi teaches that sulfuric acid concentration affects the electrolyte in that if the sulfuric acid concentration is lower than 35 g/L, beta-MnO2 having a low alkali potential, generates in the electrolytic manganese dioxide. If the sulfuric acid concentration is higher than 60 g/L, the electrolytic voltage increases, leading to the generation of oxygen on the anode and a reduced efficiency. Takahashi clearly teaches that the sulfuric acid concentration is a result effective variable. It has been held by the courts that discovering an optimum value or workable ranges of a result-effective variable involves only routine skill in the art, and thus not novel. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). See MPEP 2144.05. The instant Specification discloses that the potential of manganese dioxide in the electrolyte is varied by varying the sulfuric acid concentration. See Table 2. Varying the sulfuric acid concentration would necessarily vary the potential of manganese dioxide in the electrolyte solution.

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions

of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). MPEP 2144.05

***Response to Arguments***

Applicant's arguments filed 9/8/2008 have been fully considered but they are not persuasive.

*Applicant argues that increasing the potential of electrolytic manganese dioxide is not desired because the potential difference relative to the negative electrode to become large and the self-discharge rate increases and that's why the conventional dry-cell batteries use electrolytic manganese dioxide having a potential of approximately 250 mV.*

First, the Examiner notes that the conventional batteries use electrolytic manganese dioxide having a potential of 270 mV, not 250 mV.

The Examiner disagrees that Takahashi teaches an electrolytic manganese dioxide with a potential of 270 mV or more would be relatively poor because Takahashi does not equate 60 g/L of sulfuric acid with 270 mV.

*Applicant argues that a skilled artisan would not deliberately use the high-potential manganese dioxide of Takahashi, which has the risk of deteriorating storage characteristics, in the battery of Shigeto for the purpose of improving filling property.*

The Examiner respectfully disagrees. The varying of Shigeto's voltage of the electrolyte would not be for the purpose of improving the filling property, But to avoid forming beta-MnO2 and generation of oxygen on the anode and a reduced efficiency. See rejection above.

*Applicant argues that the battery of comparative example 1 which has the lowest manganese dioxide electrode potential, exhibits the worst storage characteristics of all the batteries tested.*

The Examiner notes that the potential of the comparative example 1 is 254 mV, whereas the prior art voltage is 270 mV.

## ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Lee/
Examiner, Art Unit 1795

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795